

**PHOTOCATALYST AND PRODUCTION THEREOF**

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Equivalents:**Abstract**

**PROBLEM TO BE SOLVED:** To effectively use light energy such as solar light and sufficiently provide stain decomposing and hazing-preventive properties to various kinds of substrates such as glass, tiles, etc., by forming a solid acid on a semiconductive photocatalyst surface.

**SOLUTION:** This catalyst having excellent stain-proof, hazing-preventive, mildewproof, deodorizing, and anti-bacterial properties is produced by forming a solid acid on a semiconductive photocatalyst surface and the semiconductor photocatalyst is preferably an oxide semiconductor and especially one or more substances selected from TiO<sub>2</sub>, Bi<sub>2</sub>O<sub>3</sub>, In<sub>2</sub>O<sub>3</sub>, WO<sub>3</sub>, ZnO, SrTiO<sub>3</sub>, etc., are used. Also, the solid acid to be used consists of oxides as a carrier (carrier oxides) and oxides (deposited oxides) deposited on the surface of the carrier and as the carrier oxides, one or more oxides selected from ZrO<sub>2</sub>, SrTiO<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, HfO<sub>2</sub>, SiO<sub>2</sub>, etc., are preferable and as the deposited oxides, one or more oxides selected from SO<sub>4</sub>, WO<sub>3</sub>, MoO<sub>3</sub>, and B<sub>2</sub>O<sub>3</sub> are preferable.

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